Commonwealth of Kentucky
Division for Air Quality

PERMIT STATEMENT OF BASIS

Title V (draft/proposed) No. V-98-025
JOHNSON CONTROLS, INCORPORATED
JOHNSON CONTROLS FOAMECH PLANT
P.O. BOX 679
GEORGETOWN, KY 40324
May 12, 2000
SUMIT SINGH AND JOHN FLOYD
Plant I.D. # 102-3640-0020
Application Log# F624 and F380

SOURCE DESCRIPTION:

JOHNSON CONTROLS, INC. FOAMECH facility produces polyurethane foam automotive seat cushions using four carousel manufacturing lines. In addition, the facility has two smaller carousels to produce headrests and other automotive components such as arm rests. The source will be setting up one additional small carousel manufacturing line and has applied for a construction permit along with the Title V permit. This Title V therefore also incorporates the construction of the small carousel manufacturing line.

Before the start of the molding operation, the interior surface of the molds is prepared so as to prevent the finished parts from sticking to the surface. This operation may involve use of either spray wax mold release agent (applied using air spray application equipment) or the paste wax mold release agent. A mixture of chemicals is poured into the molds which are then sealed. The following chemicals are used in the foam manufacturing process - toluene diisocyanate (TDI), polyols, de-ionized water, amine catalysts, silicone surfactant, diethanol amine (DEOA). Reaction of water with TDI generates carbon dioxide gas which causes spatial expansion (blowing), resulting in the production of foam in the shape of the mold. The process does not require use of blowing agents. Once the foam is properly cured in the curing ovens, the part is removed and inspected for any tears and voids. These are repaired by application of an adhesive glue.

COMMENTS:

The source is a major source because of the potential emissions of volatile organic compounds (VOCs) which are released during the application of mold release agents and repairs using adhesive glue. The potential emissions of particulate matter are about 10.36 tons per year. Certain toxic air pollutants like TDI and DEOA are also emitted during the manufacturing process, but their concentration was found to be lower than allowable concentrations. No control equipment exists for the VOCs.

The new small parts foam production line (Log #: F380), Emission Point 34, will be constructed soon. The construction permit (as a synthetic minor permit) has been incorporated into the Title V. Therefore the emissions of VOCs from this new construction shall not exceed 36 tons per year (ninety percent of the 40 ton limit) to preclude the applicability of 401 KAR 51:017, Prevention of significant deterioration.

Regulation 401 KAR 59:010, New process operations, is applicable to all emission points since particulate matter is emitted from all emission points.

FINAL DETERMINATION:

No comments were received during the comment period. The most recent permitting guidance from U.S. EPA was included in this permit but no substantive changes were made after the comment period.